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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,611	06/21/2001	Mark W. Sylor	00124-025001	4361
7590	12/22/2004		EXAMINER	
ERIC L. PRAHL			SHINGLES, KRISTIE D	
HALE AND DORR LLP				
60 STATE STREET			ART UNIT	PAPER NUMBER
BOSTON, MA 02109			2141	

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/886,611 Examiner Kristie Shingles	SYLOR ET AL. Art Unit 2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 21 June 2001.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-18 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 21 June 2001 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/18/01, 11/12/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

*Claims 1-18 are pending.*

***Priority***

1. Acknowledgment is made of applicant's claim for domestic priority under 35 U.S.C. 120. The certified copy has been filed in Provisional Application No. 60/213,211 filed on 6/21/2000.

***Information Disclosure Statement***

2. The information disclosure statements (IDS) submitted on 10/18/2001 and 11/12/2004 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the Office. An initialed and dated copy of Applicant's IDS form 1449, is attached to the instant Office action.

***Drawings***

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 41 and 53. Corrected drawing sheets, or amendment to the specification to add the reference character(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The

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replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 10. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

5. The disclosure is objected to because of the following informalities:

- "Referring to Fig.6..." should read, "Referring to Fig.7..." (Page 27 Line 19);
- "... shown in Fig.7" should read, "... shown in Fig.8" (Page 29 Line 20).

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 13 and 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by *Mayton et al* (USPN 6,763,380).

- a. **Per claims 1 and 16** (differs only by statutory class), *Mayton et al* teach a method of monitoring an element in a computer network, said method comprising:

- monitoring a preselected variable relating to said element (**Col.3 Lines 15-39; monitors device performance relating to routing data**);
- defining a threshold for the monitored preselected variable (**Col.6 Line 66-Col.7 Line 3 and Col.10 Lines 1-32; a threshold baseline is defined**);
- establishing a sliding window in time (**Col.3 Lines 15-25, Col.8 Lines 1-26 and Col.11 Lines 60-67; a sliding window time period is established with scheduling variations**);
- repeatedly generating a time above threshold value, said time above threshold value being a measure of an amount of time during which the monitored variable exceeded the threshold during the sliding window of time (**Col.3 Lines 25-57, Col.8 Lines 6-22, Col.10 Lines 25-30 and Col.11 Lines 60-67; a repeating time is executed to acquire the frequency of threshold-crossing during the sliding window of time**);
- detecting when the time above threshold value exceeds a condition window value (**Col.4 Lines 11-20, Col.10 Lines 11-32 and Col.12 Lines 7-14; detecting the time threshold-crossing occurs**); and

- in response to detecting when the time above threshold value exceeds said condition window, generating an alarm (**Col.2 Lines 35-40, Col.12 Lines 7-31 and Col.14 Lines 34-48; alarm is realized by implementing exceptions wherein an exception detection module initiates traceroutes once the threshold criteria has been exceeded**).

b. **Per claims 13 and 17 (differs only by statutory class), Mayton et al teach a**

**method of monitoring an element in a computer network, said method comprising:**

- defining a profile for that element, said profile including a plurality of different alarm rules, each of said different alarm rules establishing an alarm test for a corresponding one or more variables (**Col.3 Line 66-Col.4 Line 9, Col.6 Line 63-Col.7 Line 52 and Col.10 Line 58-Col.11 Line 19; stored data on the performance measurements, configuration data, and routings of each device constitute as profiles, wherein test protocols are established specifying the particular exception rules**);
- detecting when the alarm test for any one or more of the plurality of different alarm rules is met (**Col.6 Line 66-Col.7 Line 16, Col.8 Lines 14-65, and Col.11 Lines 6-19; exception conditions are detected based on the test protocol**);
- repeatedly generating a time above threshold value, said time above threshold value being a measure of an amount of time during which any one or more of the alarm tests has been met during a preselected prior window of time (**Col.3 Lines 25-57, Col.8 Lines 6-26, Col.10 Lines 25-30 and Col.11 Lines 60-67; a repeating time is executed to acquire the frequency of threshold-crossing during the sliding window of time**);
- detecting when the time above threshold value exceeds a condition window value (**Col.4 Lines 11-20, Col.10 Lines 11-32 and Col.12 Lines 7-14; detecting the time threshold-crossing occurs**); and
- in response to detecting when the time above threshold value exceeds said condition window, generating an alarm (**Col.2 Lines 35-40, Col.12 Lines 7-31 and Col.14 Lines 34-48; alarm is realized by implementing exceptions wherein an exception detection module initiates traceroutes once the threshold criteria has been exceeded**).

c. **Per claims 15 and 18** (differs only by statutory class), *Mayton et al* teach a method of displaying on a computer display screen historical performance of an element on a network, said method comprising:

- monitoring performance of the element (**Col.3 Lines 15-39; monitors device performance relating to routing data**);
- for each of the plurality of time slots, deriving a measure of performance for the element from its monitored performance (**Col.7 Line 61-Col.8 Line 6; performance measurements are taken for a variety of time-monitored parameters**);
- for each of a plurality of time slots, computing an average value for the measure of performance of the element (**Col.4 Lines 22-33; average values are computed for performance measurements**);
- for each of the plurality of time slots, computing a variability for the measure of performance (**Col.14 Lines 3-16; computed value indicating a time trend over a selected time window is a measure of variability**); and
- on the computer display screen and for each of the plurality of time slots:
  - (1) displaying a first indicator of the computed average value for that time slot (**Col.11 Lines 6-19 and Col.13 Lines 62-67; average value is computed**);
  - (2) a second indicator of the computed variability for that time slot (**Col.14 Lines 3-11; average time trend over a selected time window achieves computed variability for a time slot**); and
  - (3) a third indicator of the derived measure of performance for that time slot (**Figures 6A-6E; traceroute report displays indicators of the derived measure of performance for a traceroute time interval**).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Mayton et al* (USPN 6,763,380) in view of *Northcott* (USPN 6,098,195).

a. **Per claim 2,** *Mayton et al* teach the method of claim 1 as applied above, yet fails to explicitly teach the method of claim 1 further comprising after generating an alarm, maintaining the alarm at least as long as the time above threshold value exceeds a clear window value. However, *Northcott* teaches generating an alarm condition when the counters exceed the threshold limit and maintaining the alarm as long as the counters are above the threshold level (Col.3 Lines 21-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Mayton et al* and *Northcott* for the purpose of asserting an alarm upon the detection of a specific event or condition and continuing in the alarm state; because it would provide an indication declaring the status of the system's operating functions—whether the exception/fault initiating the alarm has been remedied or whether the condition is still occurring.

b. **Claim 14** is substantially equivalent to claim 2, and is therefore rejected under the same basis.

c. **Per claim 3,** *Northcott* teaches the method of claim 2 wherein said clear window value is equal to said condition window value (Col.3 Lines 13-25; the time above threshold

**exceeds a clear window value, T time periods, which is also the condition window value that when exceeded, generates the alarm).**

d. **Per claim 4, Mayton et al** teach the method of claim 3 further comprising:

- monitoring a plurality of variables relating to said element, said preselected variable being one of said plurality of variables (**Col.6 Line 66-Col.7 Line 10, Col.7 Line 61-Col.8 Line 15 and Col.8 Lines 23-35; a plurality of parameters are monitored**); and
- for each of the plurality of monitored variables, defining a corresponding threshold for that other variable, wherein the time above threshold value is a measure of an amount of time during which any one or more of the monitored variables exceeded its corresponding threshold during the corresponding sliding window of time (**Col.6 Line 63-Col.7 Line 30, Col.9 Line 42-Col.10 Line 30, Col.10 Line 63-Col.11 Line 19 and Col.13 Line 62-Col.14 Line 48; the monitored performance variables have corresponding threshold criteria according to the data provided in the associated test protocols, thus the monitored variables all experience the performance test measurements, including time exceeding the threshold limits**).

11. Claims **5-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Mayton et al* (USPN 6,763,380) in view of *Chandra et al* (USPN 6,397,359).

a. **Per claim 5, Mayton et al** teach the method of claim 1 as applied above, yet fail to distinctly teach the method of claim 1 wherein the step of defining the threshold for the preselected variable comprises: computing an average value for the preselected variable based on values obtained for the preselected variable over a corresponding prior period; defining an excursion amount; and setting the threshold equal to a sum of the average value plus the excursion amount. However, *Chandra et al* teach implementing an auto-threshold computation, with an excursion amount equal to the product of the Stdev\_count and Critical\_stdev (or Stdev);

wherein the auto-threshold value is equal to the sum of the mean plus the excursion amount (**Col.24 Lines 58-67**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Mayton et al* and *Chandra et al* for the purpose of enhancing threshold criteria to rely on an additional values instead of just one amount; because it would aid in establishing a more intricate monitoring system thereby reducing false alarms. It would also allow for the use of more precise condition indicators capable of differentiating and expanding alarm states that are based on additional values.

b. **Per claim 6,** *Mayton et al* teach the method of claim 5 wherein the corresponding period of time is less than a day (**Col.3 Lines 24-32, Col.8 Lines 14-26, Col.13 Lines 19-25 and Col.14 Lines 3-29; the time period for active or passive performance testing may be periodic or variable based on the schedule and the user's preference**).

c. **Claim 7** is substantially similar to claim 6 and is therefore rejected under the same basis.

d. **Per claim 8,** *Chandra et al* teach the method of claim 6 wherein the step of computing the average comprises computing a mean value for the preselected variable using values obtained for that preselected variable for the same hour period of the same day of the week for a predetermined number of previous weeks (**Col.24 Lines 29-57; the average can be computed using the values collected over a selected time window as an average time trend**).

e. **Per claim 9,** *Chandra et al* teach the method of claim 5 wherein the step of defining an excursion amount comprises: computing a standard deviation for the preselected variable based on values obtained for the preselected variable over a predetermined period of

time; and setting the excursion amount equal to K times the computed standard deviation, wherein K is a positive number (**Col.24 Line 61-Col.25 Line 8; the standard deviation of the performance results is calculated and can be multiplied by Stdev\_count, K, which is a user configurable value comprising positive numbers).**

f. **Per claim 10, Chandra et al** teach the method of claim 9 wherein the step of computing the standard deviation comprises computing the standard deviation using values obtained for that preselected variable for the same hour period of the same day of the week for a predetermined number of previous weeks (**Col.24 Lines 34-57; in the auto-threshold computation, the standard deviation can be calculated using the values for the variables on a periodic basis**).

g. **Per claim 11, Mayton et al** teach the method of claim 1 as applied above, yet fail to distinctly teach the method of claim 1 wherein the step of defining the threshold for the preselected variable comprises: defining an excursion amount; and setting the threshold equal to H less the excursion amount, where H is a positive number. However, *Chandra et al* teach auto-threshold computations which comprise calculating a standard deviation of the results and it is well-known that the standard deviation is calculated with a plus-or-minus, +/-, factor; thus in the minus condition, the threshold would be equal to a value, H, less the excursion amount (**Col.24 Line 58-Col.25 Line 19**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Mayton et al* and *Chandra et al* for the purpose of enhancing threshold criteria to rely on an additional value instead of just one amount; because it would aid in establishing a more intricate monitoring system thereby render more exact

measurements by offsetting and weighing the performance results. It would also allow for the use of more precise threshold indicators capable of differentiating alarm states and determining performance trends and characteristics bases on the additional values.

h. **Claim 12** is substantially similar to claim 9 and is therefore rejected under the same basis.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. *Lau* (USPN 5,724,362) discloses an apparatus and method employing a window reset for excessive bit error rate alarm detection and clearing.
- b. *Ordanic et al* (USPN 5,751,964) disclose a system and method for automatic determination of thresholds in network management.
- c. *Drake et al* (USPN 6,347,374) disclose event detection.
- d. *Wichelman* (USPN 6,785,540) disclose a monitoring system and method implementing test configuration logic.
- e. *Graf* (USPN 5,862,333) disclose a system for managing groups of computers by displaying only relevant and non-redundant alert messages of the highest severity and controlling processes based on system resources.
- f. *Kekic et al* (USPN 6,664,978) disclose client-server computer network management architecture.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie Shingles whose telephone number is 571-272-3888. The examiner can normally be reached on Monday-Friday 8:30-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristie Shingles  
Examiner  
Art Unit 2141

kds



RUPAL DHARIA  
SUPERVISORY PATENT EXAMINER